

New Jersey Department of Health (DOH)
PCE Fact Sheet
Walter O. Krumbiegel Middle School
Hillside, Union County, New Jersey

What is PCE ?

PCE is also known as tetrachloroethylene, perchloroethylene, tetrachloroethene, and PERC. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at extremely high levels, although some can smell it at even lower levels.

Where does PCE come from?

PCE is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

How could children and staff at the Walter O. Krumbiegel School have been exposed to PCE?

Children and staff at the Walter O. Krumbiegel School may have been exposed to PCE by breathing vapors from the air which are coming from an unknown source. It is presumed that children and adults who spent time in the Walter O. Krumbiegel School were exposed to PCE.

How much PCE did children and staff at the Walter O. Krumbiegel School get exposed to?

How much each person breathed in depends on how much time they spent at the Walter O. Krumbiegel School. It is unknown how much PCE was in the air before testing was done.

Typical background levels of PCE in urban communities in New Jersey range from 5.36 micrograms of PCE per cubic meter of air ($\mu\text{g}/\text{m}^3$) to $8.82 \mu\text{g}/\text{m}^3$. Recent levels of PCE identified in the indoor air at the Walter O. Krumbiegel School ranged from $1\mu\text{g}/\text{m}^3$ to $97\mu\text{g}/\text{m}^3$.

Will staff and children attending the Walter O. Krumbiegel School get sick from PCE exposure?

The risk evaluation completed by the DOH is site specific for the school, accounts for cumulative risk for both children and staff, and uses the maximum concentration of PCE found in the school. Based on the current indoor air data collected at the school, the DOH would not expect adverse health effects to occur at these levels.



Consumer, Environmental & Occupational Health Services
Public Health Services Branch
PO Box 369
Trenton, NJ 08625-0369

How can PCE affect my health?

The health effects of breathing in air with low levels of PCE are not known. Most information on health effects of exposure to PCE are from studies of workers employed in industries that use PCE. These workers were exposed long-term to levels of PCE in the air far greater than the levels normally encountered by the general population.

Exposure to high concentrations of PCE (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Results from some studies suggest that women who work in dry cleaning industries where exposures to PCE can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if PCE was responsible for these problems because other possible causes were not considered. There is also evidence that PCE may cause cancer. PCE has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to PCE?

One way of testing for PCE exposure is to measure the amount of the chemical in the breath, similar to the way breath-alcohol measurements are used to determine the amount of alcohol in the blood. Because it is stored in the body's fat and slowly released into the bloodstream, PCE can be detected in the breath for weeks following exposure to very high levels.

PCE and trichloroacetic acid (TCA), a breakdown product of PCE, can be detected in the blood. These tests are not available at most doctors' offices, but can be performed at special laboratories that have the right equipment. Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to PCE or the other chemicals.

Who should I talk to if I am concerned about my health or my child's health?

You should begin by discussing your concerns with your physician or your child's pediatrician. There are clinics that specialize in environmental health issues that your primary care provider may want to contact.

For adults: The Environmental and Occupational Health Clinical Center in Piscataway, NJ sees adults who have been exposed to contaminants occupationally or environmentally. They can be reached at (848) 445-0123.

For children: Pediatricians can contact the Mt. Sinai Medical Center's Pediatric Environmental Health Specialty Unit at (866) 265-6201.

For general questions: Contact the New Jersey Department of Health, Consumer, Environmental, and Occupational Health Services at 609-826-4920.